WHAT IS CLAIMED IS:

1. A method for forming a semiconductor device comprising:

forming a semiconductor film comprising silicon over a substrate; and

irradiating said semiconductor film with a linear laser light to form a region to become at least a channel formation region in said semiconductor film,

wherein said region to become at least a channel formation region contains hydrogen at a concentration of 1×10^{15} to 1×10^{20} atoms cm^{-3}, also contains carbon and nitrogen at a concentration of 1×10^{16} to 5×10^{18} atoms cm^{-3}, and further contains oxygen at a concentration of 1×10^{17} to 5×10^{19} atoms cm^{-3}.

2. A method for forming a semiconductor device comprising:

forming a semiconductor film comprising silicon over a substrate; and

irradiating said semiconductor film with a linear laser light to form a region to become at least a channel formation region in said semiconductor film,

wherein said region to become at least a channel formation region contains hydrogen and halogen at a concentration of 1×10^{15} to 1×10^{20} atoms cm^{-3}, also contains carbon and nitrogen at a concentration of 1×10^{16} to 5×10^{18} atoms cm^{-3}, and further contains oxygen at a concentration of 1×10^{17} to 5×10^{19} atoms cm^{-3}.

3. A method for forming a semiconductor device comprising:

forming a semiconductor film comprising silicon over a substrate; and

irradiating said semiconductor film with a linear laser light to form a single-crystalline region or region equivalent to the single-crystalline region to become at least a channel formation region in said semiconductor film,

wherein said single-crystalline region or region equivalent to the single-crystalline region contains substantially no crystal boundary therein, contains hydrogen at a concentration of 1×10^{15} to 1×10^{20} atoms cm^{-3}, also contains carbon and nitrogen at a concentration of 1×10^{16} to 5×10^{18} atoms cm^{-3}, and further contains oxygen at a concentration of 1×10^{17} to 5×10^{19} atoms cm^{-3}.

4. A method for forming a semiconductor device comprising:

forming a semiconductor film comprising silicon over a substrate; and

irradiating said semiconductor film with a linear laser light to form a single-crystalline region or region equivalent to the single-crystalline region to become at least a channel formation region in said semiconductor film,

wherein said single-crystalline region or region equivalent to the single-crystalline region contains substantially no crystal boundary therein, contains hydrogen and halogen at a concentration of 1×10^{15} to 1×10^{20} atoms cm^{-3}, also contains carbon and nitrogen at a concentration of 1×10^{16} to 5×10^{18} atoms cm^{-3}, and further contains oxygen at a concentration of 1×10^{17} to 5×10^{19} atoms cm^{-3}.

5. A method for forming a semiconductor device comprising:

forming an amorphous semiconductor film comprising silicon over a substrate;

forming an amorphous semiconductor island comprising silicon by etching said amorphous semiconductor film into a first shape having a narrowest width of 100 μm or less;

irradiating said semiconductor island with a linear laser light to form a single-crystalline region or region equivalent to the single-crystalline region to become at least a channel formation region in said semiconductor island; and

etching an end portion of said semiconductor island to narrow a portion of said semiconductor island from said end portion of said semiconductor island by 10 μm or more to form a second shape semiconductor region which has the narrowed portion in at least said channel formation region,

wherein said single-crystalline region or region equivalent to the single-crystalline region contains substantially no crystal boundary therein, contains hydrogen and halogen at a concentration of 1×10^{15} to 1×10^{20} atoms cm^{-3}, also contains carbon and nitrogen at a concentration of 1×10^{16} to 5×10^{18} atoms cm^{-3}, and further contains oxygen at a concentration of 1×10^{17} to 5×10^{19} atoms cm^{-3}.

6. A method according to claim 1 wherein said linear laser light is a laser light selected from the group consisting of a KrF excimer laser light, a XeCl excimer laser light, a Nd:YAG laser light, a second harmonic of said Nd:YAG laser light and a third harmonic of said Nd:YAG laser light.

7. A method according to claim 1 wherein said substrate is selected from the group consisting of a glass substrate and a quartz substrate.

8. A method according to claim 2 wherein said linear laser light is a laser light selected from the group consisting of a KrF excimer laser light, a XeCl excimer laser light, a Nd:YAG laser light, a second harmonic of said Nd:YAG laser light and a third harmonic of said Nd:YAG laser light.

9. A method according to claim 2 wherein said substrate is selected from the group consisting of a glass substrate and a quartz substrate.

10. A method according to claim 3 wherein said linear laser light is a laser light selected from the group consisting of a KrF excimer laser light, a XeCl excimer laser light, a Nd:YAG laser light, a second harmonic of said Nd:YAG laser light and a third harmonic of said Nd:YAG laser light.

11. A method according to claim 3 wherein said substrate is selected from the group consisting of a glass substrate and a quartz substrate.

12. A method according to claim 4 wherein said linear laser light is a laser light selected from the group consisting of a KrF excimer laser light, a XeCl excimer laser light, a Nd:YAG laser light, a second harmonic of said Nd:YAG laser light and a third harmonic of said Nd:YAG laser light.

13. A method according to claim 4 wherein said substrate is selected from the group consisting of a glass substrate and a quartz substrate.

14. A method according to claim 5 wherein said linear laser light is a laser light selected from the group consisting of a KrF excimer laser light, a XeCl excimer laser light, a Nd:YAG laser light, a second harmonic of said Nd:YAG laser light and a third harmonic of said Nd:YAG laser light.

15. A method according to claim 5 wherein said substrate is selected from the group consisting of a glass substrate and a quartz substrate.

16. A method according to claim 1 wherein said semiconductor device is a liquid crystal display.

17. A method according to claim 2 wherein said semiconductor device is a liquid crystal display.

18. A method according to claim 3 wherein said semiconductor device is a liquid crystal display.

19. A method according to claim 4 wherein said semiconductor device is a liquid crystal display.

20. A method according to claim 5 wherein said semiconductor device is a liquid crystal display.

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